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SCOTT P. ZIMMERMAN, PLLC PO BOX 3822 CARY, NC 27519			SHANNON, MICHAEL R	
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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/749,825

Applicant(s)

HICKS ET AL.

Examiner

Michael R Shannon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 December 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-51 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-51 is/are rejected.
- 7) ☒ Claim(s) 1 and 16-20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 March 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 1, and 16-20 is objected to because of the following informalities:

Claim 1 contains an obvious typographical error. The last line of the claim currently reads "switch ports of the data switch, the tuner", this should be corrected to read "switch ports of the data switch, and the tuner".

Claims 16-20 contain the limitation "information signal", which does not have proper antecedent basis in the claims. For the purposes of the art rejection below this will be taken to read "information channel" throughout and should be corrected in subsequent claim filings.

Appropriate correction is required.

### ***Drawings***

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 137. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and

informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 1 are rejected under 35 U.S.C. 103(a) as being unpatentable over Humpleman (USP 6,005,861), cited by examiner.

Regarding claim 1, the claimed "system for providing digital entertainment data" is met by Humpleman as follows:

- The claimed "data switch, the data switch having a plurality of switch ports" is met by the multi-port switched hub 38 [col. 3, lines 49-55 & col. 5, lines 27-29].
- The claimed "mass storage device, the mass storage device coupled to a switch port of the plurality of switch ports of the data switch" is not disclosed specifically by Humpleman, but will be discussed below.
- The claimed "tuner, the tuner to select an information channel of a plurality of information channels" is met by the tuner that is present in the NIU for tuning [col. 9, lines 49-52].

- The claimed “demodulator, the demodulator coupled to both a switch port of the plurality of switch ports of the data switch, and the tuner” is met by the demodulator that is present in the NIU for demodulating the tuned signal and sending it to the multi-port switched hub [col. 9, lines 49-52].

The Humpleman reference does not specifically disclose the “mass storage device, the mass storage device coupled to a switch port of the plurality of switch ports of the data switch”. The Humpleman reference does however disclose a video-on-demand service as one of the external content providers coupled to the data switch [col. 10, lines 58-61]. The examiner takes Official Notice that it is notoriously well known in the art to use a storage device (such as a hard disk drive) at the receiver (NIU in this case) to record and watch selected programming. In this case, the storage device could easily replace or complement the video-on-demand system and could function similarly. Also, it is suggested on column 4, lines 2-7, that the end-user device could include recording products. The examiner therefore submits that it would have been obvious to one of ordinary skill in the art at the time of the invention to include a storage device in the system for providing digital entertainment, in order to allow for time-shifting of program material and to allow for a substitution or complement to the video-on-demand system discussed herein.

Regarding claim 2, the claimed “Web-server, the Web-server coupled to the data switch” is met by the home network controller in conjunction with the control software located at east home terminal. Column 7, lines 5-17 discloses a system for controlling the availability, source selection, and path management features of the controller. This

functionality is sufficient to meet the Web-server, which, as disclosed by applicant, functions in much the same way.

Regarding claim 3, the claimed "system of claim 1, wherein the demodulator is to receive a transmission signal and output an information signal, the transmission signal including a carrier signal and the information signal" is met by the demodulator that is present in the NIU for demodulating the tuned signal and sending it to the multi-port switched hub [col. 9, lines 49-52].

Regarding claim 4, the claimed "decryption logic coupled to the demodulator, the decryption logic to receive an encrypted information signal and output a decrypted information signal" is met by encryption/decryption section present in the NIU [col. 9, lines 49-57].

Regarding claim 5, the claimed "encryption logic coupled to the data switch, the encryption logic to receive an unencrypted information signal and output an encrypted information signal" is met by the same encryption/decryption section present in the NIU [col. 9, lines 49-57].

Regarding claim 6, the claimed "broadband data port, the broadband data port coupled to a switch port of the plurality of switch ports of the data switch" is met by the ISDN NIU of figure 1, which is connected to the multi-port switched hub [col. 3, lines 21-35].

Regarding claim 7, the claimed "broadband data port is to receive data from a broadband data service provider" is met by the fact that the ISDN NIU can receive data

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from such as compressed video, compressed audio, etc... from the broadband ISDN connection [col. 3, lines 21-35].

Regarding claim 8, the claimed "first multimedia input, the first multimedia input coupled to the tuner" is met by the HFC/Cable/Broadcast NIU coupled to the tuner and the hub [Figure 1].

Regarding claim 9, the claimed "system of claim 8, wherein the first multimedia input is to receive a plurality of transmission signals" is met by the Cable Broadcast NIU of Figure 1, which delivers television programming as compressed digital video [col. 3, lines 21-35].

Regarding claim 10, the claimed "system of claim 9, wherein the plurality of transmission signals include a plurality of television program signals" is met by the Cable Broadcast NIU of Figure 1, which delivers television programming as compressed digital video [col. 3, lines 21-35].

Regarding claim 11, the claimed "system of claim 9, wherein the plurality of transmission signals include an audio signal" is again met by the Cable Broadcast NIU of Figure 1, which can deliver compressed audio [col. 3, lines 21-35].

Regarding claim 12, the claimed "system of claim 9, wherein the plurality of transmission signals include a data signal" is again met by the Cable Broadcast NIU of Figure 1, which can deliver compressed internet data [col. 3, lines 21-35].

Regarding claim 13, the claimed "plurality of transmissions signals are received from a transmission facility selected from the group consisting of a direct broadcast

satellite, a cable head end, and a terrestrial transmitter” is met by the HFC/Cable NIU and the Broadcast/DSS NIU, which can both receive transmission signals [Figure 1].

Regarding claim 14, the fact that the claimed “plurality of transmission signals are multiplexed transmission signals selected from the group of frequency divided multiplexed transmission signals, time divided multiplexed transmission signals, code divided multiplexed transmission signals, wavelength divided multiplexed transmission signals, and dense wavelength divided multiplexed transmission signals” is not met specifically by Humpleman, however, it is inherent in the teaching of the broadcast systems. All of the systems (HFC, CATV, DBS, or DSS) use some sort of multiplexed signal, which must be demultiplexed at the NIU [col. 7, lines 55-57].

Regarding claim 15, the claimed “system of claim 1, wherein the tuner selects an information channel of a plurality of information channels at least in part by receiving a plurality of transmission signals, and outputting a transmission signal of the plurality of transmission signals” is met by the ability for the tuner to extract a single program stream from the multiplexed program stream [col. 7, lines 55-57].

Regarding claim 16, the claimed “mass storage device receives and stores the information signal” is not met specifically by the Humpleman reference, but as is discussed above with regards to claim 1, the Humpleman reference does disclose a video-on-demand service as one of the external content providers coupled to the data switch [col. 10, lines 58-61]. The examiner takes Official Notice that it is notoriously well known in the art to use a storage device (such as a hard disk drive) at the receiver (NIU in this case) to record and watch selected programming. In this case, the storage



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device could easily replace or complement the video-on-demand system and could function similarly. The examiner therefore submits that it would have been obvious to one of ordinary skill in the art at the time of the invention to include a storage device in the system for providing digital entertainment, in order to allow for time-shifting of program material and to allow for a substitution or complement to the video-on-demand system discussed herein.

Regarding claim 17, the Humpleman reference does teach, "the data switch receives the information signal" through the connectivity to the NIU [col. 4, lines 57-61]. The Humpleman reference does not specifically disclose that the "data switch sends the information signal to the mass storage device, and the mass storage device stores the information signal". As is discussed above with regards to claim 1, the Humpleman reference does disclose a video-on-demand service as one of the external content providers coupled to the data switch [col. 10, lines 58-61]. The examiner takes Official Notice that it is notoriously well known in the art to use a storage device (such as a hard disk drive) at the receiver (NIU in this case) to record and watch selected programming. In this case, the storage device could easily replace or complement the video-on-demand system and could function similarly. Also, it is suggested on column 4, lines 2-7, that the end-user device could include recording products. The examiner therefore submits that it would have been obvious to one of ordinary skill in the art at the time of the invention to include a storage device in the system for providing digital entertainment, in order to allow for time-shifting of program material and to allow for a substitution or complement to the video-on-demand system discussed herein.

Regarding claim 18, the Humpleman reference teaches receiving of a mixed analog/digital Broadcast signal at one of the NIU's [Figure 1], however, does not specifically point out the use of a analog-to-digital converter because, as is stated in column 6, lines 63-64, the system is an "all digital system". Also, one will note that at the receiver, Humpleman points out the use of a digital-to-analog converter, which converts the digital signals being worked with throughout the system into analog signals for display at the display device [col. 10, lines 5-8]. The examiner takes Official Notice that it is notoriously well known in the art to convert received analog signals into digital signals for use in an "all digital system". Therefore, the examiner submits that the analog-to-digital converter receiving the information signal, and outputting the digital signal would have been clearly obvious to one of ordinary skill in the art at the time of the invention. The analog-to-digital converter would have allowed the system to process and work with received analog signals in an "all digital system". Finally, the Humpleman reference does not specifically disclose that the "mass storage device stores the digital information signal". As is discussed above with regards to claim 1, the Humpleman reference does disclose a video-on-demand service as one of the external content providers coupled to the data switch [col. 10, lines 58-61]. The examiner takes Official Notice that it is notoriously well known in the art to use a storage device (such as a hard disk drive) at the receiver (NIU in this case) to record and watch selected programming. In this case, the storage device could easily replace or complement the video-on-demand system and could function similarly. Also, it is suggested on column 4, lines 2-7, that the end-user device could include recording products. The examiner

therefore submits that it would have been obvious to one of ordinary skill in the art at the time of the invention to include a storage device in the system for providing digital entertainment, in order to allow for time-shifting of program material and to allow for a substitution or complement to the video-on-demand system discussed herein.

Regarding claim 19, the claim that the "digital information signal is a MPEG-2 encoded digital information signal" is met by MPEG video being retained throughout the network [col. 5, line 67].

Regarding claim 20, the Humpleman reference teaches receiving of a mixed analog/digital Broadcast signal at one of the NIU's [Figure 1], however, does not specifically point out the use of a analog-to-digital converter because, as is stated in column 6, lines 63-64, the system is an "all digital system". Also, one will note that at the receiver, Humpleman points out the use of a digital-to-analog converter, which converts the digital signals being worked with throughout the system into analog signals for display at the display device [col. 10, lines 5-8]. The examiner takes Official Notice that it is notoriously well known in the art to convert received analog signals into digital signals for use in an "all digital system". Therefore, the examiner submits that the analog-to-digital converter receiving the information signal, and outputting the digital signal would have been clearly obvious to one of ordinary skill in the art at the time of the invention. The analog-to-digital converter would have allowed the system to process and work with received analog signals in an "all digital system". The claim that the "encryption logic receives the digital information signal" is met by the encryption/decryption section present in the NIU to encrypt incoming signals [col. 9,

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lines 49-57]. Finally, the Humpleman reference does not specifically disclose that the "mass storage device stores the encrypted digital information signal". As is discussed above with regards to claim 1, the Humpleman reference does disclose a video-on-demand service as one of the external content providers coupled to the data switch [col. 10, lines 58-61]. The examiner takes Official Notice that it is notoriously well known in the art to use a storage device (such as a hard disk drive) at the receiver (NIU in this case) to record and watch selected programming. In this case, the storage device could easily replace or complement the video-on-demand system and could function similarly. Also, it is suggested on column 4, lines 2-7, that the end-user device could include recording products. The examiner therefore submits that it would have been obvious to one of ordinary skill in the art at the time of the invention to include a storage device in the system for providing digital entertainment, in order to allow for time-shifting of program material and to allow for a substitution or complement to the video-on-demand system discussed herein.

Regarding claim 21, the claimed "second multimedia input, the second multimedia input coupled to a switch port of the data switch, the second multimedia input to receive a multimedia signal, wherein the data switch is to receive the multimedia signal" is met by any one of the other NIU's 32, which are interfaced to another source of multimedia input and are routed to the multi-port switched hub 38.

Regarding claim 22, the claimed "plurality of broadband data communication links, each broadband data communication link of the plurality of broadband data communication links coupled to a respective port of the plurality of switch ports of the

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data switch” is met by the internal network connected to the multi-port switched hub 38 [col. 3, lines 49-55]. The claimed “plurality of digital set top boxes, each digital set top box of the plurality of digital set top boxes coupled to a respective broadband data communication link” is met by the multiple set-top boxes [col. 2, lines 8-12].

Regarding claim 23, the claimed “plurality of broadband data communication links are selected from the group consisting of category 5 cables, category 5e cables, category 6 cables, category 7 cables, and OC-3 cables” is met by the Cat-5 twisted pair cables that connect the network [col. 4, lines 48-51].

Regarding claim 24, the claimed “digital set top box of the plurality of digital set top boxes includes a digital data interface, the digital data interface to communicate with the data switch” is met by home-network specific interfacing and data buffering at the set top boxes [col. 10, lines 1-2].

Regarding claim 25, the claimed “lower bandwidth communication interface, the lower bandwidth communication interface coupled to a switch port of the plurality of switch ports of the data switch” is met by POTS analog line and HAN (Home Automation Network), which runs on a low bit-rate network [col. 4, lines 33-38].

Regarding claim 26, the claimed “lower bandwidth communication interface is selected from the group consisting of a HomePNA 2.0 interface, HomeRF SWAP interface, IEEE 802.11 interface, and a Bluetooth interface” is not specifically met by the Humpleman reference. The examiner takes Official Notice that it is notoriously well known in the art to implement a low bandwidth wireless or phone-line network in a home as a means of networking. Therefore, the examiner submits that it would have been

clearly obvious to one of ordinary skill in the art at the time of the invention to utilize a low bandwidth communication interface, such as a wireless network access interface in place of or complementing the higher bandwidth interface (Ethernet) in order to provide backwards compatibility and wireless access throughout the home without the need for a mess of wires or wiring installation.

Regarding claim 27, the claimed "data switch is an Ethernet switch" is met by Ethernet switch hub 38 [col. 3, lines 49-55].

Regarding claim 28, the claimed "digital data interface is an Ethernet interface" is met by the Ethernet network-specific interface [col. 10, lines 1-2].

Regarding claim 29, the claimed "data switch is a router" is met by multi-port switched hub 38.

Regarding claim 30, the claimed "system for providing digital entertainment data" is met as follows:

- The claimed "first tuner, the first tuner adapted to receive a plurality of transmission signals and to selectively output a first transmission signal of the plurality of transmission signals" is met by the tuner that is present in the NIU for tuning [col. 9, lines 49-52].
- The claimed "first demodulator, the first demodulator coupled to the tuner, the first demodulator adapted to receive the transmission signal, the transmission signal including an information signal, the first demodulator to output the information signal" is met by the demodulator that is present

in the NIU for demodulating the tuned signal and sending it to the multi-port switched hub [col. 9, lines 49-52].

- The claimed “data switch, the data switch coupled to the first demodulator, the data switch adapted to receive the information signal” is met by the multi-port switched hub 38 [col. 3, lines 49-55 & col. 5, lines 27-29].
- The claimed “mass storage device, the mass storage device coupled to the data switch, the mass storage device adapted to store the information signal” is not disclosed specifically by Humpleman, but will be discussed below.

The Humpleman reference does not specifically disclose the “mass storage device, the mass storage device coupled to the data switch, the mass storage device adapted to store the information signal”. The Humpleman reference does however disclose a video-on-demand service as one of the external content providers coupled to the data switch [col. 10, lines 58-61]. The examiner takes Official Notice that it is notoriously well known in the art to use a storage device (such as a hard disk drive) at the receiver (NIU in this case) to record and watch selected programming. In this case, the storage device could easily replace or complement the video-on-demand system and could function similarly. Also, it is suggested on column 4, lines 2-7, that the end-user device could include recording products. The examiner therefore submits that it would have been obvious to one of ordinary skill in the art at the time of the invention to include a storage device in the system for providing digital entertainment, in order to

allow for time-shifting of program material and to allow for a substitution or complement to the video-on-demand system discussed herein.

Regarding claim 31, the claimed "decryption logic coupled to the first demodulator" is met by encryption/decryption section present in the NIU [col. 9, lines 49-57]. The claimed "encryption logic coupled to the decryption logic" is met, again, by encryption/decryption section present in the NIU [col. 9, lines 49-57]. The claimed "information signal is a first encrypted signal, the decryption logic decrypting the first encrypted information signal, the encryption logic encrypting the decrypted first encrypted information signal to generate a second encrypted information signal, the second encrypted information signal being sent to the data switch, the mass storage device storing the second encrypted information signal" is met by the rejection to claim 20 above.

Regarding claim 32, the claimed "data switch has a plurality of high bandwidth switch ports" is met by the Ethernet multi-port switch hub 38 [col. 3, lines 49-55].

Regarding claim 33, the claimed "high bandwidth switch ports include a plurality of 100Base-T Ethernet switch ports" is met by the 100Base-T multi-port switched hub 38 [col. 3, lines 49-55].

Regarding claim 34, the claimed "data switch has a switch port coupled to a lower bandwidth communications device" is met by POTS analog line and HAN (Home Automation Network), which runs on a low bit-rate network [col. 4, lines 33-38].

Regarding claim 35, the claimed "lower bandwidth communications device is selected from the group consisting of a HomePNA 2.0 interface, HomeRF SWAP



interface, IEEE 802.11 interface, and a Bluetooth interface” is not specifically met by the Humpleman reference. The examiner takes Official Notice that it is notoriously well known in the art to implement a low bandwidth wireless or phone-line network in a home as a means of networking. Therefore, the examiner submits that it would have been clearly obvious to one of ordinary skill in the art at the time of the invention to utilize a low bandwidth communication interface, such as a wireless network access interface in place of or complementing the higher bandwidth interface (Ethernet) in order to provide backwards compatibility and wireless access throughout the home without the need for a mess of wires or wiring installation.

Regarding claim 36, the claimed “method of providing digital entertainment data” is met as follows:

- The claimed steps of “receiving a plurality of transmission signals, each transmission signal including an information signal; and selecting a first transmission signal of the plurality of transmission signals” is met by the tuner that is present in the NIU for tuning [col. 9, lines 49-52].
- The claimed step of “demodulating the first transmission signal to isolate the first information signal” is met by the demodulator that is present in the NIU for demodulating the tuned signal and sending it to the multi-port switched hub [col. 9, lines 49-52].
- The claimed step of “storing the first information signal on a mass storage device” is not disclosed specifically by Humpleman, but will be discussed below.

- The claimed steps of “sending the first information signal to a digital data switch; and sending the first information signal to a first broadband communications link coupled to the digital data switch” is met by the multi-port switched hub 38, which sends information from the NIU’s to the STB’s [col. 3, lines 49-55 & col. 5, lines 27-29].

The Humpleman reference does not specifically disclose the step of “storing the first information signal on a mass storage device”. The Humpleman reference does however disclose a video-on-demand service as one of the external content providers coupled to the data switch [col. 10, lines 58-61]. The examiner takes Official Notice that it is notoriously well known in the art to use a storage device (such as a hard disk drive) at the receiver (NIU in this case) to record and watch selected programming. In this case, the storage device could easily replace or complement the video-on-demand system and could function similarly. Also, it is suggested on column 4, lines 2-7, that the end-user device could include recording products. The examiner therefore submits that it would have been obvious to one of ordinary skill in the art at the time of the invention to include a storage device in the system for providing digital entertainment, in order to allow for time-shifting of program material and to allow for a substitution or complement to the video-on-demand system discussed herein.

Regarding claim 37, the claimed step of “sending the first information signal to a digital data switch including sending the first information signal to an analog-to-digital converter, and outputting the first digital information signal, the first digital information signal based at least in part on the first information signal” is not specifically met by

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Humpleman, but as is stated in column 6, lines 63-64, the system is an "all digital system". Also, one will note that at the receiver, Humpleman points out the use of a digital-to-analog converter, which converts the digital signals being worked with throughout the system into analog signals for display at the display device [col. 10, lines 5-8]. The examiner takes Official Notice that it is notoriously well known in the art to convert received analog signals into digital signals for use in an "all digital system". Therefore, the examiner submits that the analog-to-digital converter receiving the information signal, and outputting the digital signal would have been clearly obvious to one of ordinary skill in the art at the time of the invention. The analog-to-digital converter would have allowed the system to process and work with received analog signals in an "all digital system". Finally, the claimed step of "sending the first information signal to a first broadband communications link coupled to the digital data switch includes sending the first digital information signal to the first broadband communications link coupled to the digital data switch" is met by the multi-port switched hub 38, which sends information from the NIU's to the STB's [col. 3, lines 49-55 & col. 5, lines 27-29].

Regarding claim 38, the claimed steps of "selecting a second transmission signal of the plurality of transmission signals; demodulating the second transmission signal to isolate a second information signal; sending the second information signal to the digital data switch; and sending the second information signal to a second broadband communications link coupled to the digital data switch" is met by any one of the other

NIU's 32, which are interfaced to another source of multimedia input and are routed to the multi-port switched hub 38.

Regarding claim 39, the claimed step of "storing the second communications signal on the mass storage device" is not met specifically by the Humpleman reference, but as is discussed above with regards to claim 1, the Humpleman reference does disclose a video-on-demand service as one of the external content providers coupled to the data switch [col. 10, lines 58-61]. The examiner takes Official Notice that it is notoriously well known in the art to use a storage device (such as a hard disk drive) at the receiver (NIU in this case) to record and watch selected programming. In this case, the storage device could easily replace or complement the video-on-demand system and could function similarly. The examiner therefore submits that it would have been obvious to one of ordinary skill in the art at the time of the invention to include a storage device in the system for providing digital entertainment, in order to allow for time-shifting of program material and to allow for a substitution or complement to the video-on-demand system discussed herein.

Regarding claim 40, the claimed step of "receiving from the first broadband communications link a command to control sending of the first information signal" is met by the VOD system being implemented [col. 10, lines 58-61], which inherently teaches the ability to control the delivery of the signal.

Regarding claim 41, the claimed "command to control sending of the first information signal is selected from the group of a command to pause sending of the first information signal, a command to resend the first information signal, a command to

increase a rate of sending of the first information signal, a command to decrease a rate of sending the first information signal, a command to stop sending the first information signal, and a command to resume sending of the first information signal" is, again, met by the VOD system being implemented [col. 10, lines 58-61], which inherently teaches the ability to control the delivery of the signal by stopping, pausing, rewinding, and fast-forwarding the signal.

Regarding claim 42, the claimed step of "receiving a command from the second broadband communications link to control sending of the second information signal" is met by the VOD system being implemented [col. 10, lines 58-61], which inherently teaches the ability to control the delivery of the signal.

Regarding claim 43, the claimed steps of "selecting a third transmission signal of the plurality of transmission signals; demodulating the third transmission signal to isolate a third information signal; sending the third information signal to the digital data switch; and sending the third information signal to a third broadband communications link coupled to the digital data switch, the first data communications link having a lower bandwidth than the first broadband communications link" is met by any one of the other NIU's 32, which are interfaced to another source of multimedia input and are routed to the multi-port switched hub 38.

Regarding claim 44, the claimed "data switch is an Ethernet switch" is met by Ethernet switch hub 38 [col. 3, lines 49-55].

Regarding claim 45, the claimed "data switch is a router" is met by multi-port switched hub 38.

Regarding claim 46, the claimed "first broadband communications link is selected from the group consisting of category 5 cables, category 5e cables, category 6 cables, category 7 cables, and OC-3 cables" is met by the Cat-5 twisted pair cables that connect the network [col. 4, lines 48-51].

Regarding claim 47, the claimed "first data communications link is selected from the group consisting of a HomePNA 2.0 interface, HomeRF SWAP interface, IEEE 802.11 interface, and a Bluetooth interface" is not specifically met by the Humpleman reference. The examiner takes Official Notice that it is notoriously well known in the art to implement a low bandwidth wireless or phone-line network in a home as a means of networking. Therefore, the examiner submits that it would have been clearly obvious to one of ordinary skill in the art at the time of the invention to utilize a low bandwidth communication interface, such as a wireless network access interface in place of or complementing the higher bandwidth interface (Ethernet) in order to provide backwards compatibility and wireless access throughout the home without the need for a mess of wires or wiring installation.

Regarding claim 48, the claimed "system for providing digital entertainment data" is met by Humpleman as follows:

- The claimed "means for selectively outputting a first transmission signal of a plurality of transmission signals" is met by the tuner that is present in the NIU for tuning [col. 9, lines 49-52].
- The claimed "means for demodulating the first transmission signal to generate an information signal, the means for demodulating coupled to the

means for selectively outputting” is met by the demodulator that is present in the NIU for demodulating the tuned signal and sending it to the multi-port switched hub [col. 9, lines 49-52].

- The claimed “means for switching digital data, the means for switching digital data coupled to the means for demodulating, the means for switching digital data adapted to receive the information signal” is met by the multi-port switched hub 38 [col. 3, lines 49-55 & col. 5, lines 27-29].
- The claimed “means for mass storage, the means for mass storage coupled to the means for switching digital data, the means for mass storage adapted to store the information signal” is not disclosed specifically by Humpleman, but will be discussed below.

The Humpleman reference does not specifically disclose the “means for mass storage, the means for mass storage coupled to the means for switching digital data, the means for mass storage adapted to store the information signal”. The Humpleman reference does however disclose a video-on-demand service as one of the external content providers coupled to the data switch [col. 10, lines 58-61]. The examiner takes Official Notice that it is notoriously well known in the art to use a storage device (such as a hard disk drive) at the receiver (NIU in this case) to record and watch selected programming. In this case, the storage device could easily replace or complement the video-on-demand system and could function similarly. Also, it is suggested on column 4, lines 2-7, that the end-user device could include recording products. The examiner therefore submits that it would have been obvious to one of ordinary skill in the art at the

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time of the invention to include a storage device in the system for providing digital entertainment, in order to allow for time-shifting of program material and to allow for a substitution or complement to the video-on-demand system discussed herein.

Regarding claim 49, the claimed "means for broadband communications coupled to the means for switching digital data" is met by the Ethernet multi-port switch hub 38 which connects to Cat-5 cables for distribution throughout the home [col. 3, lines 49-55 & col. 4, lines 48-56].

Regarding claim 50, the claimed "means for interfacing a multimedia device, each means for interfacing a multimedia device coupled to a respective means for broadband communications" is met by home-network specific interfacing and data buffering at the set top boxes [col. 10, lines 1-2].

Regarding claim 51, the claimed "means for lower bandwidth communications coupled to the means for switching digital data" is met by POTS analog line and HAN (Home Automation Network), which runs on a low bit-rate network [col. 4, lines 33-38].

### ***Conclusion***

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hamlin (USP 5,574,964) discloses a signal distribution system very similar to that of Humpleman.

Ramanathan (IEEE) discloses a home network controller for integrating multiple forms of digital information.

Freadman (USP 5,733,041) discloses a hybrid home-entertainment system.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael R. Shannon whose telephone number is (571) 272-7356. The examiner can normally be reached Monday through Friday 8:00 AM – 5:00PM, with alternate Friday's off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller, can be reached at (571) 272-7353.

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Michael R Shannon  
Examiner  
Art Unit 2614

Michael R Shannon  
April 20, 2005

  
**JOHN MILLER**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**